

CLAIMS

What is claimed is:

1. A promoter of the CD11d gene comprising all or a functional portion of isolated or recombinant SEQ ID NO:1, such that the sequence is sufficient to direct myeloid cell specific expression of a gene.
- 1 *sub B20* 2. The promoter of the CD11d gene according to claim 1, wherein the functional portion is selected from the group consisting of -946 to +74 of SEQ ID NO:1, and -173 to +74 of SEQ ID NO:1.
- 1 3. The promoter of the CD11d gene according to claim 1, wherein the sequence comprises one or more modifications, such that the modified sequence retains sufficient activity to direct myeloid cell specific expression of a gene.
- 1 4. The promoter of the CD11d gene according to claim 2, wherein the sequence comprises one or more modifications, such that the modified sequence retains sufficient activity to direct myeloid cell specific expression of a gene.
- 1 5. A promoter of the CD11d gene comprising an isolated or recombinant double-stranded DNA molecule wherein one of the strands hybridizes to all or a functional portion of SEQ ID NO:1.
- 1 *sub B27* 6. The promoter of the CD11d gene according to claim 5, wherein one of the strands of the DNA hybridizes to all or a functional portion of a sequence selected from the group consisting of -946 to +74 of SEQ ID NO:1, and -173 to +74 of SEQ ID NO:1.

1 7. A *cis*-acting element that influences the activity of a myeloid
2 cell specific promoter, comprising a functional portion of isolated or recombinant
3 SEQ ID NO:1, such that the element is sufficient to influence the activity of a
4 myeloid cell specific promoter.

1 *sub 328* 8. The *cis*-acting element according to claim 7, wherein the *cis*-
2 acting element is the -946 to +74 region of SEQ ID NO:1.

1 9. The *cis*-acting element according to claim 7, wherein the *cis*-
2 acting element is the -173 to +74 region of SEQ ID NO:1.

1 10. The *cis*-acting element according to claim 7, wherein the *cis*-
2 acting element is the -72 to -40 region of SEQ ID NO:1.

1 11. The *cis*-acting element according to claim 7, wherein the *cis*-
2 acting element comprises one or more modifications, such that the modified element
3 retains sufficient activity to enhance the activity of a myeloid cell specific promoter.

1 12. The *cis*-acting element according to claim 7, wherein the *cis*-
2 acting element is a binding site for a transcription factor.

1 13. The *cis*-acting element according to claim 12, wherein the *cis*-
2 acting element is a binding site for Sp1.

1 *sub 329* 14. The *cis*-acting element according to claim 13, wherein the
2 binding site for Sp1 is the -63 to -40 (5') region of SEQ ID NO:1.

1 15. The *cis*-acting element according to claim 7, wherein the *cis*-
2 acting element is a myeloid cell specific silencer element.

1 *sub 330* 16. The *cis*-acting element according to claim 15, wherein the *cis*-
2 acting element is the -591 to -378 region of SEQ ID NO:1.

1 17. A promoter of the CD11d gene comprising an isolated or
2 recombinant double-stranded DNA molecule wherein one strand hybridizes to all or
3 a functional portion of SEQ ID NO:1.

1 18. A cell specific CD11d promoter-heterologous gene construct,
2 the CD11d promoter comprising all or a functional portion of SEQ ID NO:1 such
3 that the sequence is sufficient to direct myeloid cell specific expression of a gene,
4 and a heterologous gene, wherein expression of the heterologous gene of the
5 construct is under transcriptional control of the CD11d promoter.

1 19. The cell specific CD11d promoter-heterologous gene construct
2 according to claim 18, wherein the functional portion of the CD11d promoter is
3 selected from the group consisting of -946 to +74 of SEQ ID NO:1, and -173 to
4 +74 of SEQ ID NO:1.

1 20. The cell specific CD11d promoter-heterologous gene construct
2 according to claim 18, wherein the Cd11d promoter sequence comprises one or
3 more modifications, such that the modified sequence retains sufficient activity to
4 direct myeloid cell specific expression of a gene.

1 21. The cell specific CD11d promoter-heterologous gene construct
2 according to claim 18, wherein the construct further comprises a *cis*-acting element
3 that influences the activity of the CD11d promoter, the *cis*-acting element located
4 (5') upstream of the heterologous gene.

1 22. The cell specific CD11d promoter-heterologous gene construct
2 according to claim 18, wherein the *cis*-acting element comprises a functional portion
3 of isolated or recombinant SEQ ID NO:1, such that the element is sufficient to
4 effect the activity of a myeloid cell specific promoter.

1 23. The cell specific CD11d promoter-heterologous gene construct
2 according to claim 18, wherein the *cis*-acting element is the -946 to +74 region of
3 SEQ ID NO:1.

1 24. The cell specific CD11d promoter-heterologous gene construct
2 according to claim 18, wherein the *cis*-acting element is the -173 to +74 region of
3 SEQ ID NO:1.

1 25. The cell specific CD11d promoter-heterologous gene construct
2 according to claim 18, wherein the *cis*-acting element is the -72 to -40 region of
3 SEQ ID NO:1.

1 26. The cell specific CD11d promoter-heterologous gene construct
2 according to claim 18, wherein the *cis*-acting element comprises one or more
3 modifications, such that the modified element retains sufficient activity to influence
4 the activity of a myeloid cell specific promoter.

1 27. The cell specific CD11d promoter-heterologous gene construct
2 according to claim 18, wherein the *cis*-acting element is a binding site for a
3 transcription factor.

1 28. The cell specific CD11d promoter-heterologous gene construct
2 according to claim 27, wherein the *cis*-acting element is a binding site for Sp1.

1 29. The cell specific CD11d promoter-heterologous gene construct
2 according to claim 28, wherein the binding site for Sp1 is the -63 to -40 (5') region
3 of SEQ ID NO:1.

1 30. The cell specific CD11d promoter-heterologous gene construct
2 according to claim 18, wherein the *cis*-acting element is a myeloid cell specific
3 silencer element.

1 31. The cell specific CD11d promoter-heterologous gene construct
2 according to claim 18, wherein the *cis*-acting element is the -591 to -378 region of
3 SEQ ID NO:1.

1 32. A myeloid cell that expresses a heterologous gene product
2 under transcriptional control of a CD11d promoter, wherein expression of the
3 heterologous gene of the construct is under transcriptional control of the CD11d
4 promoter.

1 33. The myeloid cell according to claim 32, wherein the CD11d
2 promoter comprises a double-stranded DNA molecule wherein one of strands has
3 the sequence which hybridizes to all or a functional portion of the DNA sequence of
4 SEQ ID NO:1.

1 34. The myeloid cell according to claim 32, wherein the CD11d
2 promoter is a functional portion of SEQ ID NO:1.

1 35. The myeloid cell according to claim 32, wherein the
2 functional portion is selected from the group consisting of -946 to +74 of SEQ ID
3 NO:1, and -173 to +74 of SEQ ID NO:1.

1 36. The myeloid cell according to claim 32, wherein the cell
2 further comprises a *cis*-acting element that affects the CD11d promoter.

1 37. The myeloid cell according to claim 36, wherein the *cis*-acting
2 element is the -946 to +74 region of SEQ ID NO:1.

1 38. The myeloid cell according to claim 36, wherein the *cis*-acting
2 element is the -173 to +74 region of SEQ ID NO:1.

1 39. The myeloid cell according to claim 23, wherein the *cis*-acting
2 element is the -72 to -40 region of SEQ ID NO:1.

1 40. A method of expression for myeloid cell specific genes,
2 comprising:
3 (a) positioning a gene of interest so that it is functionally
4 controlled by the promoter of claim 1; and
5 (b) expressing the gene of interest.

1 41. A method of expression for myeloid cell specific genes,
2 comprising:

- 3 (a) positioning a gene of interest so that it is functionally
4 controlled by the promoter of claim 2; and
5 (b) expressing the gene of interest.

1 42. A method for identifying regulating factors of myeloid cell
2 specific transcription, comprising:

- 3 (a) contacting a myeloid cell which contains a heterologous gene
4 under the transcriptional control of a CD11d promoter with a selected factor,
5 wherein the promoter comprises all or a functional portion of isolated or
6 recombinant SEQ ID NO:1, such that the sequence is sufficient to direct myeloid
7 cell specific expression of the heterologous gene; and
8 (b) assaying for expression of the heterologous gene and
9 comparing its expression in cells contacted with the factor with expression of the
10 gene in cells not contacted with the factor, and thereby determining whether the
11 expression pattern of the heterologous gene is altered in cells contacted with the
12 factor as compared to that of cells which have not been contacted with the factor.

1 43. A *cis*-acting element that influences the activity of a myeloid
2 cell specific promoter, comprising a functional portion of isolated or recombinant
3 SEQ ID NO:³, such that the element is sufficient to influence the activity of a
4 myeloid cell specific promoter.